EAT FRUITS & VEGETABLES AND BE ACTIVE

Nutrition NETWORK FOR HEALTHY ACTIVE FAMILIES

Impact Evaluation Handbook

A Guide for California Nutrition Network Local Incentive Awardees

The *California Nutrition Network for Healthy, Active Families*

Cancer Prevention Nutrition Section

California Department of Health Services

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Introduction

Evaluation can be an exciting undertaking that helps improve programs, justify funding and determine if an intervention makes a difference in the lives of those served. It allows individuals to think about the ultimate behavioral outcome of an intervention, the factors that influence it and the activities that influence the factors.

In FFY 2003-2004 the *California Nutrition Network for Healthy Active Families* (*Network*) began an evaluation project to assess the impact of nutrition education activities. The project was designed for individuals with little or no evaluation experience. Consequently, the *Network* developed tools to facilitate evaluation. These included capacity building workshops, technical assistance, data entry templates, report templates, surveys and this Handbook.

This three-part Handbook addresses topics that range from basic evaluation concepts to the nuts and bolts of data collection and provides links to resources. The first section answers frequently asked questions. The second covers evaluation models and the role they play in evaluating nutrition education interventions. The third describes the steps involved in conducting an evaluation of a nutrition education intervention. A Compendium of Surveys is included as a supplement.

This Handbook was developed using behavioral theory and the evaluation experience of staff at agencies and institutions throughout California. It was compiled for Local Incentive Awardees (LIAs) contracted (contractors) by the *Network* to provide nutrition education for individuals eligible to participate in the Federal Food Stamp Program (FSP). When contractors are asked to conduct evaluation they inevitably have a number of questions that are best answered at the beginning.

I. Frequently Asked Questions

A. Why evaluate?

The questions we ask drive the answers we find. The answers we get help clarify the things we value and these drive the decisions we make about resource allocation. Evaluation is a systematic set of activities that provide information to answer our questions.

Distinct methods of evaluation are conducted to answer questions at different points in the development or implementation of an intervention. The questions at the beginning of an evaluation differ from those in the middle or at the end. Formative evaluation is generally conducted at the beginning when creating an intervention. It is used to answer questions like: "Will the target audience use the materials?" or "Is the intervention likely to achieve the intended outcome?" Process evaluation takes place while the intervention is unfolding. It helps program planners answer questions like "Are we doing what we said we were going to do?" or "Is the program unfolding the way we expected?" Impact evaluation takes place at the end of an intervention. It is conducted to answer questions like: "How can we improve the program?" or "Are we making a difference?" The answers to these questions help program planners and administrators make decisions about how best to use resources to improve health.

In short, we do evaluation to answer questions. Evaluation questions vary. Each calls for a unique set of methods. And those methods help us get to the answers we seek. The answers we get help us decide what to change. And the changes allow us to enjoy more of what we value.

B. What is the purpose of this evaluation?

The purpose of the impact evaluation project is twofold. The first is to determine if nutrition education makes a difference fruit and vegetable consumption and physical activity behaviors. This helps answer the second

question “Is the money being well spent?” or “How much of a bang are USDA and the *Network* getting for their buck?”

C. How will the results be used?

The results of this project will be used by stakeholders to improve interventions that target fruit and vegetable consumption and physical activity. It will also be used to identify and diffuse effective strategies. Contractors can use the findings to sell their projects to non-USDA funding sources and persuade others that their efforts are improving the quality of life of food stamp eligible populations.

D. Will we lose some or all of our funding if the evaluation is not favorable?

No. LIAs will not be penalized for unfavorable results but they will be asked to use the findings to improve programs. The *Network* will support contractors as they refine strategies and improve interventions.

If results are unfavorable it is sometimes difficult to determine why. One might ask if the intervention did not work as expected or if the methods did not match the intervention. For this reason, it is critical to focus the evaluation at the beginning.

II. Focusing the Evaluation

Evaluations are best planned while creating an intervention because evaluation questions influence the intervention activities and the activities always influence the evaluation questions. Strong evaluations are grounded in a model that describes how an intervention theoretically leads to a desired behavior. This “theory” is often intuitive and can be expressed graphically to reveal the underlying assumptions about how the program will work.

Evaluation models, sometimes referred to as logic models, explain the "if-then" reasoning behind an intervention. For example, a training intervention may be based on the logic that *if* a staff person trains teachers to implement a nutrition education curriculum *then* it will be taught correctly. And *if* it is taught correctly *then* the students will develop knowledge, attitudes and beliefs (KABs) that favor fruit and vegetable intake. And *if* they develop positive KABs *then* their fruit and vegetable consumption will increase. This logic can be captured in an evaluation model.

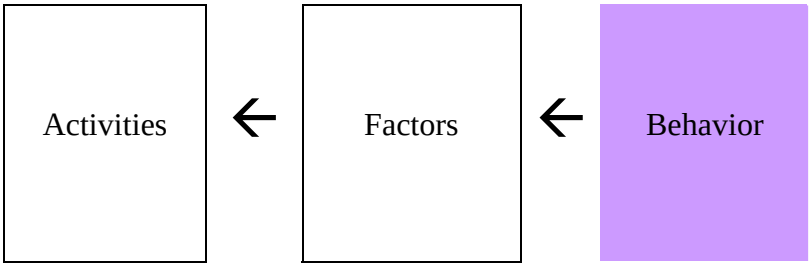
There are many different ways to create an evaluation model. The *Network* encourages LIAs to describe their interventions using a three-component model that is based on Green and Kreuter's PRECEED-PROCEED model[1]. This model, displayed as three boxes, is comprised of a) a behavioral component, b) factors that influence a behavior and c) activities to change the other two components. The model must be constructed by beginning at the right and proceeding to the left. Once it is complete, a logical sequence will flow from left to right. Evaluation models are foundational when focusing an evaluation.

A. Behaviors (Goals)

The first step in creating an evaluation model is to identify the behavior that will be targeted. This is often referred to as the goal. The process is straight forward for the *Network*. Most LIAs focus their work on fruit and vegetable consumption (FVC) and/or physical activity (PA) (Figure 1).

[1] Green, L. W. and Kreuter, M. W. (1991). Health Promotion Planning: An Educational and Environmental Approach. Mountain View, CA, Mayfield Publishing Company.

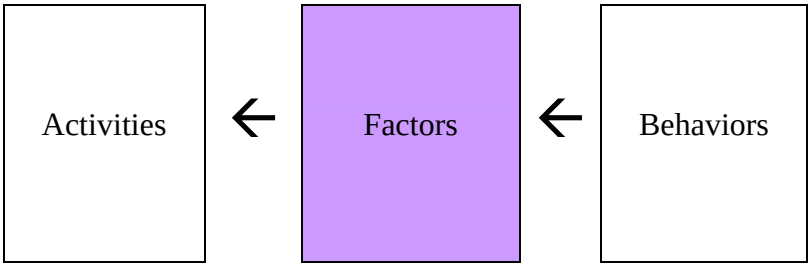
Figure 1: Evaluation Model - Behaviors



B. Factors that influence behavior

The second step in creating an evaluation model is to identify the factors that influence the target behavior, represented by the middle box in the model (Figure 2). In this context, the term "factors" refers to non-tangible elements that influence behavior. They are those things that determine how one acts. They are sometimes referred to as precursors of behavior, determinants, antecedents, or psychosocial correlates, but the *Network* uses the term "factors."

Figure 2: Evaluation Model - Factors



Factors that influence behaviors vary by target audience and behavior. For example, the reasons why adults engage in physical activity differ from those of children. Also, the factors that determine whether one will eat six cups of fruits and vegetables are different from those that influence physical activity. It is essential that the factors are properly

identified for an intervention to be effective. Table 1 lists examples of factors that influence individuals on many levels.

Table 1: Factors associated with *Network* goals	
Factors that influence FV intake	Factors that influence physical activity
☞ Knowledge & Awareness	☞ Access to parks, playgrounds & gyms
☞ Preferences	☞ Sidewalks, street lights, traffic signals
☞ Availability	☞ Social support
☞ Accessibility	☞ Safety in PA areas
☞ Self-efficacy for asking, preparing, shopping, etc.	☞ Self-efficacy for doing the activity
☞ Skills	☞ Skills for exercise behaviors
☞ Cultural habits	☞ Convenience
☞ Social norms	☞ Norms that support PA
☞ Cost	☞ Cost

The impact evaluation must assess change in behavior or factors that influence it. If contractors decide to measure change in knowledge they must also assess change in at least one other factor. The *Network* encourages LIAs to assess change in more than one factor to increase the likelihood of detecting a change.

Creating Objectives Based on Factors

A well-written objective must be SMART, i.e., specific, measurable, achievable, realistic, and time-based (or time bound). Consider the following when crafting an objective.

- Specific: Does the objective clearly specify what will be accomplished and by how much? This should include event, action, or behavior change that is planned.
- Measurable: How will you quantify change? What, specifically will change?
- Achievable: Does the objective make sense in terms of what the intervention is trying to accomplish?
- Realistic: Is the objective achievable given the available resources and experience?
- Time-based: Does the objective specify by when it will be achieved?

The factors are the source of impact objectives for a Scope of Work written for the *Network*. In this context, an impact objective is a statement about the change that will occur in a factor or behavior. For example, an objective targeting the factor of food preferences might be written as follows:

By July 31, 2008, a sample of students in XYZ Unified School District will report a statistically significant increase in food preferences for fruits and vegetables.

The previous example is SMART because it specifically targets food preferences, is measurable because it indicates there will be a statistically significant increase and it is time bound because it will be done by September 2008. The objective would be achievable and realistic if, in fact, the agency has the resources to carry out the intervention.

Sometimes it is helpful to have a generic template for an impact evaluation objective. The following is an example that could be customized for a particular target group, factor or behavior.

By July 31, 2008, there will be a statistically significant increase in fruit and vegetable consumption and/or factors that influence it, like self-efficacy, food preferences or knowledge for at least 50 food stamp eligible adults..

The final impact evaluation objective would need to be finalized with the Program Manager for the Scope of Work. However, it's important to craft an objective that takes into account the need to shift the focus if results are favorable on the outcomes measured.

C. Activities

Activities are the tangible actions or strategies that are used to engage people during an intervention. They include events like nutrition education classes, role plays, taste tests, food preparation trainings, demonstrations, goal setting activities, newsletters, video tapes, songs, letter

writing and others. Appendix A is a substantial resource that links activities to factors.

Researchers have found that participants show change after attending as few as five sessions[2] but many require more. For example, the 12-session GIMME 5 intervention used multiple activities, each tied to a specific factor. The activities were delivered over multiple sessions in a short period of time to build on previous exposures.

The term "intervention" refers to all the activities in the left-hand box of the evaluation model.

The term "intervention" is used by the *Network* to refer to the activities in the left box. These must have a logical connection to the factors in the middle box, which in turn must be logically linked to the behavior of fruit and vegetable consumption in the right hand box.

Effective interventions consist of activities directly linked to factors that influence a specific behavior and are built on the premise that *behaviors will change if the factors change*. Researchers[3] have found that effective interventions also have:

1) a behavioral focus
2) instructional strategies based on appropriate theory
3) an adequate amount of education required to stimulate change
4) peer involvement
5) self-assessment and feedback
6) environmental interventions to complement behavioral lessons
7) community involvement.

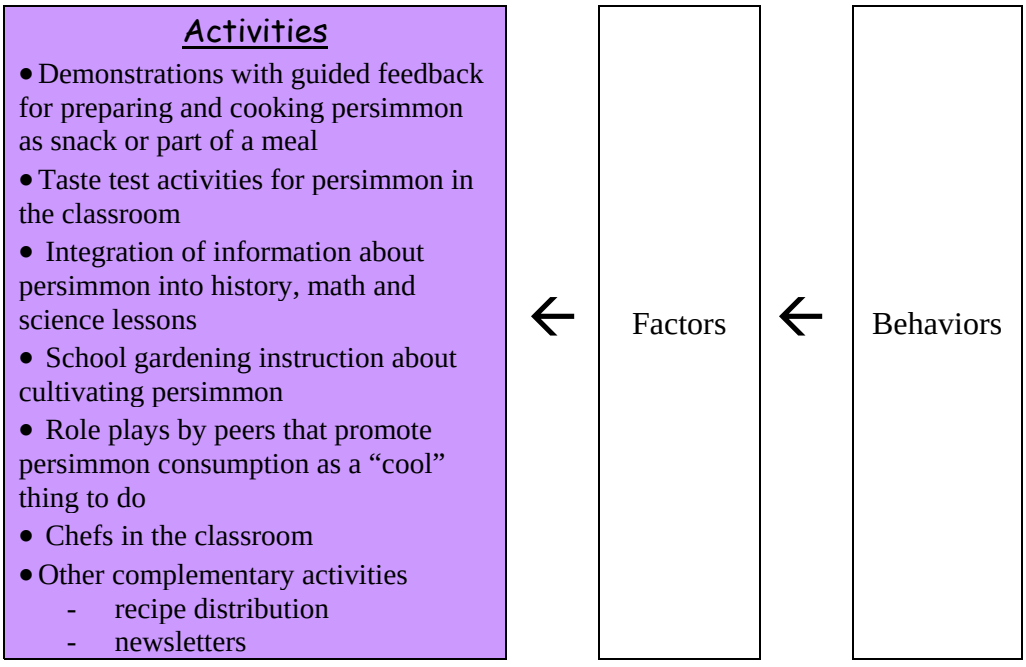
In addition, *Network* contractors have reported that really successful nutrition education happens when fruit and vegetables are available, when there are hands-on activities, parental involvement, humor and consistency in the nutrition education.

[2] Lytle (Personal communication August 2003)
[3] Hoelscher, D. M., Evans, A. et al. (2002). "Designing effective nutrition interventions for adolescents." J Am Diet Assoc **102**(3 Suppl): S52-63.

To achieve the consistency that contractors have found to be a core factor of success the *Network* expects **LIAs, participating in the impact evaluation, must implement and evaluate at least one intervention that exposes the participants to at least five face-to-face encounters.** Each meeting should be comprised of distinct activities targeting fruit and vegetable consumption and each meeting should build on previous ones. For example, a series of five classes that include taste tests, role playing, recipe preparation and cooking demonstration that build on one another would be considered an acceptable intervention.

Figure 3 below illustrates the link between activities, factors and the behavior for a hypothetical school-based intervention. The connection of these three components explains why one would expect the program to work.

Figure 3: Evaluation Model - Activities



Appendix B contains a sample evaluation model and template you may use to create your own evaluation model. The template will serve you when it is time to choose your survey.

III. Methods for Conducting the Evaluation

This section details the procedures for conducting the Impact Evaluation. Once the evaluation question has been articulated it is time to choose a tool to measure change.

A. Survey Selection

The evaluation model you create serves as the basis for selecting appropriate measurement tools, or surveys. As a reminder, the left hand box lists the behavior of interest. The middle box contains the factors that influence it. The *Network* has created a Compendium of Surveys that contains tools suitable for measuring change in behavior or factors that influence it. The Compendium of Surveys is available online at: http://socialmarketing-nutrition.ucdavis.edu/tools/somarktools.php and is also included at the end of this document.

Valid means that the questions/ surveys measure what they say they will measure

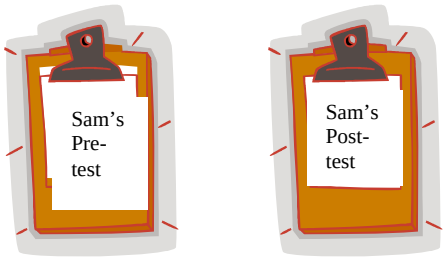
Most surveys in the Compendium have been validated and shown to be reliable. This process ensures they measure what they say they will measure each time they are administered. The addition or deletion of questions will change their integrity and decrease the likelihood that they will measure what they were designed to measure in an accurate manner and consequently should not be changed. There are three exceptions. The availability and preferences surveys may be altered to include fruits, juices or vegetables featured in the intervention and the knowledge scale may be modified to incorporate elements of the curriculum in use. New surveys

Reliable means that the questions/ survey consistently measure the same things

should not be developed. Contact the Research and Evaluation Unit (REU) to help identity tools appropriate for your intervention. This is especially important if you cannot find a survey that meets your needs.

B. Study Design

After choosing a survey that matches the intervention it's time to decide when to administer it. It is common to use a pretest posttest design in impact evaluation. This means that they administer the pretest before the start of the intervention and the posttest after the intervention is over. Other types of designs include a pretest posttest with a control group, a pretest posttest with different levels of intervention intensity, or a pretest posttest with a second posttest. Each design has its advantages. **The *Network* expects contractors who have done evaluation for more than one year to increase the rigor of the design.** Rigor can be increased by adding a control group, increasing the number of participants or by measuring behavior. This applies if behavior has not been measured in previous evaluations.



It is very important that the pretest be administered before the intervention begins to capture the greatest amount of change. This will maximize the likelihood that a difference will be detected. Posttests may be administered immediately after the fifth or last face-to-face encounter with participants or it may be administered a few weeks after the intervention.

C. Sample Size

People often ask how many surveys need to be administered when planning an evaluation. The best way to determine the impact of an intervention is to survey everyone who participated. However, when time,

money, and resources are limited, a group of the participants should be selected, or "sampled," to measure program impact. Large samples can detect smaller changes and the results are more generalizable than small samples. The size of the sample should be driven by the amount of resources available.

LIAs participating in the evaluation should collect a minimum of 50 posttests that have matching pretests, i.e., the same person filled out a pretest and posttest. It is important to survey enough people at the pretest to account for dropout and non-response to the posttest. Remember to calculate the amount of time it will take to collect all the pretests and posttests. This is important if surveys need to be collected from individuals participating in several multi-session interventions.

D. Tracking Participants

It is easier to attribute change to nutrition education if change can be captured at the individual level. For this reason, it is critical that the surveys have an identification number so the pretests can be matched with the posttests. The numbers must be unique to each survey respondent and may be recorded on the page with demographic information. For example, a school district might assign a two-digit number to each participating school and classroom and then assign each student a unique identification number.

The *Network* **strongly discourages** the use of names to preserve participant anonymity. However, if they must be used, they should not be entered into the computer with their answers and should be kept separate from the survey data. If names are included on the surveys they should be kept in a secure location under lock and key. **PLEASE DO NOT SEND ANY DOCUMENTS OR ELECTRONIC FILES TO THE *NETWORK* STAFF WITH PARTICIPANTS' NAMES ON THEM.**

One creative *Network* contractor discovered she could ensure that students would provide the same number on the pre and posttest if she had them write the information on the cover page of the pretest and the posttest

at the time of the pretest. Once the pretests were completed she collected all the documents and saved the posttest cover pages until it was time to administer them.

E. Cover Letters

The pretests and posttests should be accompanied by a cover letter that addresses the purpose of the survey, the sponsor, the motive for requesting their participation, how the information will be used and a contact name for additional inquiries. A sample cover letter is included in Appendix C (in English and Spanish) and it may be read aloud to participants in a group setting or distributed with each copy of the survey.

F. Demographic Data

Each survey should include a page, like the one included in the Compendium of Surveys, to capture demographic information of respondents. The information should include gender, race/ethnicity and age. This page should also serve as a place holder for the identification number that will be used to link the pretests and posttests.

G. Participant Consent

Some institutions have committees to protect the rights of study participants and require evaluators to get permission before administering surveys. If your institution or the one where the intervention is conducted has a *Committee for the Protection of Human Subjects* or an *Institutional Review Board* you may be required to get approval for your evaluation prior to administering the survey. It is the responsibility of contractors to investigate this and get approval, if required. Plan ahead as this may take longer than expected.

At a minimum, you must obtain permission from those who complete the survey. They must be given an option not to participate. Verbal consent is adequate in many cases as with adults, but written consent is required for others, usually with younger populations.

H. Administer the survey

Once the above issues (A-G) have been addressed and the necessary work has been completed, it is time to administer the survey. In many cases, it is helpful to pilot test the surveys with a small group of individuals before administering it to the entire sample. This will afford LIAs an opportunity to troubleshoot problems that could otherwise significantly weaken the evaluation.

The survey administration methods should be the same at both pretest and posttest, for instance, if you read the survey out loud to the participants at the pretest, it should also be read aloud at the posttest. Ideally the survey would be done by the same data collectors on the same day of the week.

I. Data Entry and Analysis

Generally, data collectors go home happy after administering pretests or posttests to a group of participants. They are usually eager to begin data entry and prepare for the analysis. This is good because c**ontractors are responsible for data entry and conducting data analysis** and can draw on many *Network* resources to help with this.

The *Network* offers data entry templates for contractors who need assistance analyzing the data. The data entry templates are MS Excel spreadsheets that automatically calculate pretest means, posttest means, the difference between them and p-values. For more information see Appendix E.

Resources can also be found through the Regional Nutrition Networks or an outside consultant. (Ten percent of a contractor's budget is available for evaluation. These funds may be used for this purpose.)

J. Reporting the evaluation results

LIAs required to implement an impact evaluation must submit a report of the findings each year by July 31st. A report template is included in Appendix D and is also available online. Alternate formats are accepted if they include all the information requested on the template.

IV. Conclusion

LIAs conducting an impact evaluation can expect to benefit in several ways. They will:

- ☞ Answer the question they started with.
- ☞ Gain insights to improve program effectiveness
- ☞ Justify current funding to stakeholders
- ☞ Develop skills to evaluate other programs
- ☞ Understand why their programs work
- ☞ Document successes
- ☞ Collect information that may be useful for securing funding from additional sources
- ☞ Provide (or receive) assistance and learn from other LIAs conducting evaluation.

The ten requirements for the *Network* evaluation have been described throughout the text. They were established to ensure quality interventions are delivered to food stamp eligible populations and that sound data are collected and used to improve programs and justify funding. In sum,

1. Contractors that receive over $350,000 in Federal Share are expected to conduct impact evaluation. Others are strongly encouraged to do so.
2. Contractors are expected to measure change in factors that influence fruit and vegetable consumption or physical activity.
   - If they measure change in knowledge they must also measure change in at least one other factor.

3. Contractors are strongly encouraged to measure change in fruit and vegetable consumption and physical activity (if targeted).
4. Contractors are expected to include an impact evaluation objective, with clearly identified outcomes, in their Scope of Work. This should include the specific factors that will be measured in the evaluation.
5. Contractors are expected to get their survey approved by the *Network's* Research and Evaluation Unit. (They should not develop surveys without the approval of the *Network*.)
6. Contractors that have conducted an impact evaluation are expected to do an increasingly rigorous evaluation each year. This may include adding a control group, increasing sample size or measuring behavior.
7. Contractors that conduct nutrition education at the individual or interpersonal levels are expected to implement an intervention that is designed to reach the same individuals at least 5 times.
8. Contractors are responsible for collecting and analyzing their data.
9. Contractors are expected to submit results for at least 50 matched pairs, i.e., a pretest and posttest for the same individuals.
10. Contractors are expected to submit data, analysis results and a report by July 31st of each year, unless otherwise approved by the *Network*.

This handbook describes the rationale for conducting Impact Evaluation and the role of the evaluation model in this process. It also provides the reader an opportunity to create a model reflecting the logic underlying their intervention. And, it serves as the basis for selecting a survey or a tool to collect data and measure success. If you would like more information about t-tests or evaluation methods, go to the Research and Evaluation webpage at http://www.dhs.ca.gov/ps/cdic/cpns/research/default.htm.

Appendix A: Matrix of Factors and Strategies

Factors that influence behavior (and behaviors for which it is suited)	**Description**	**Activities to change factor (*these are examples of many activities that may be conducted to change the factor*)**
Individual Level		
Knowledge (FV, PA)[4]*	Knowledge may be informational or procedural. The former refers to a collection of facts or discrete pieces of information that enable one to solve tasks and the latter to how to perform procedures. Knowledge is necessary but *not sufficient* for behavior change.	• Conduct nutrition education classes that provide information on topics such as food selection, healthy preparation techniques or the link between gardening and healthy eating • Integrate nutrition education into core curriculum subjects • Distribute small media materials such as fact sheets, brochures, newsletters, calendars, etc. to convey information, concepts and the benefits of FV consumption, and PA, • Conduct one-on-one contacts, for example at a grocery store, to promote FV consumption and PA • Distribute Nutrition Education Reinforcement Items (NERIs) with messages promoting *Network* objectives in conjunction with nutrition education • Field trips to farms to promote fruit and vegetable consumption and physical activity • Construct bulletin boards in the cafeteria, classroom or worksite • Distribute nutrition education materials at health fairs, meetings, back-to-school nights and similar activities • Provide school staff with information and resources to begin a Nutrition Action Council and share of best practices from nearby school districts • Read or write story books to increase awareness of healthy eating and PA • Create and display artwork promoting *Network* objectives

[4] FV = Fruit and Vegetable consumption; PA = Physical Activity

Factors that influence behavior (and behaviors for which it is suited)	**Description**	**Activities to change factor (*these are examples of many activities that may be conducted to change the factor*)**
Awareness (FV, PA)	Awareness brings attention to an unmet need or the existence of a problem	• Same as knowledge above
Skills (FV, PA)	Skills are the technical abilities required to perform a task and are developed by performing a behavior with feedback to correct errors	• Conduct nutrition education classes that include hands-on opportunities for participants to read labels, plan meals, select, buy and/or prepare healthy foods • Conduct a one-time physical activity demonstration (in conjunction with nutrition education) to demonstrate how to perform specific behaviors, like dribble a basketball or jump rope • Identify and role play examples of negative outcomes of physical inactivity, poor nutrition and provide strategies to overcome them
Fear of Crime (PA)	Fear of crime may keep people from being physically active outdoors	• Organize a one-time nutrition and walking event or a walking school bus and discuss strategies to increase safety • Organize a Walk to School Day in conjunction with a nutrition education program and identify strategies children and parents can use to prevent injuries • Discuss techniques to increase safety while walking or playing outside • Dispel myths leading to fear of crime, as part of a larger nutrition education program, through small group discussions and field trips along safe walking routes
Food Preferences (FV)	Preferences for one food over another are influenced by other factors like taste (sweet, sour, bitter or salty), familiarity and parental influences	• Conduct taste testing events • Oversee recipe preparation and tasting of prepared foods • Grocery store tours with food tasting

Factors that influence behavior (and behaviors for which it is suited)	Description	Activities to change factor (*these are examples of many activities that may be conducted to change the factor*)
Interpersonal Level		
Self-efficacy (FV, PA)	The degree of confidence a person has about their ability to perform a specific behavior. Self-efficacy may be enhanced through skill building activities, modeling of the desired behavior by peers, demonstrations and supervised practices that include feedback/reinforcement, goal setting, verbal persuasion, and planned coping responses.	• Conduct cooking demonstrations that address the sub-skills needed to prepare healthy foods • Demonstrate and provide opportunities for participants to select and prepare healthy foods from a salad bar and allow participants to practice and provide feedback • Demonstrate, on a one-time basis in conjunction with nutrition education, proper techniques for kicking a soccer ball or an aerobic routine and provide an opportunity to practice and give feedback • Teach participants to use a 4-step goal setting process by instructing them to 1) recognize a need for change; 2) establish a goal; 3) develop activities to attain the goal and 4) monitor progress and create an opportunity for participants to set goals and analyze obstacles to achieving targets • Get role models (or videotapes of them) to demonstrate and talk to participants about the benefits of performing healthy behaviors • Develop role-model stories describing how they overcame obstacles to eating the recommended amount of fruit and vegetables and getting the appropriate amount of physical activity • Provide vicarious reinforcement through posters with short role-model stories
Outcome expectations (FV, PA)	One's belief about the probable consequences of performing a behavior	• Conduct classes that debunk myths about the negative consequences of eating fruits and vegetables and engaging in physical activity • Provide participants with opportunities to practice the behavior and experience the benefits and discuss participant's experiences of the positive benefits • Invite role models to discuss their positive experiences of performing the behavior
Social support (FV, PA)	Relationships that contain elements of caring, trust, openness, acceptance and support for behavior change. May be direct and tangible or informational	• Organize multi-session group cooking classes, 5 a Day dining clubs or nutrition and walking events for small groups • Facilitate a student discussion group that promotes a message such as "Its cool to eat at school" • Model healthy behaviors, provide opportunities for participants to practice them and

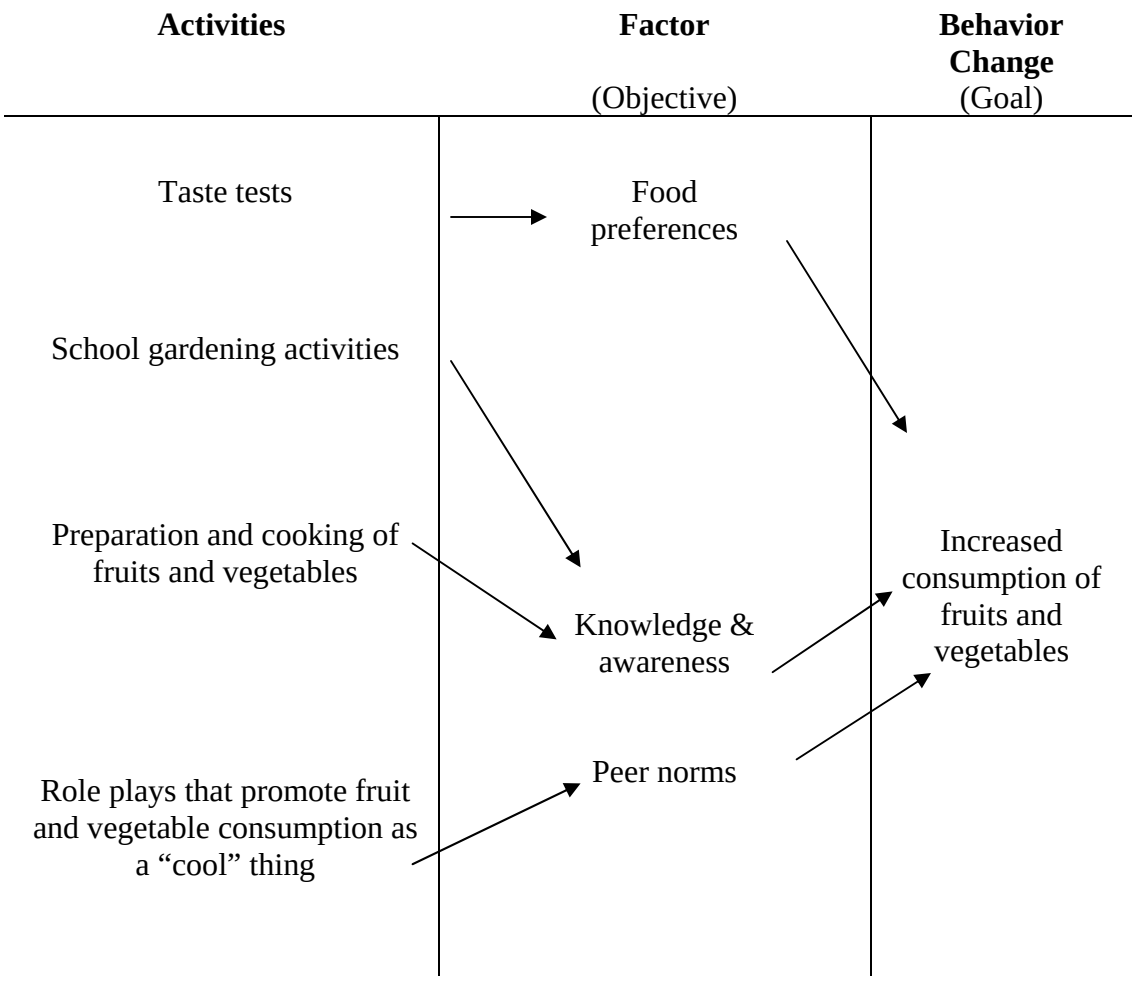
Factors that influence behavior (and behaviors for which it is suited)	Description	Activities to change factor (*these are examples of many activities that may be conducted to change the factor*)
		provide feedback • Facilitate group commitments to health food choices • Facilitate participant interaction and encourage exchange of positive feedback
Institutional / Organizational		
Health and social policies (FV, PA)	Local, state or federal laws or rules	• Draft policies or modify existing ones to promote fruit and vegetable consumption and Physical activity. • Create Administrative Regulations to implement policy • Encourage local mass media outlets to conduct positive public service advertising campaigns for healthy eating and physical activity promotion • Increase fruit and vegetable availability for low income schools and worksites by creating policies to establish a farm-to-school program • Promote healthy food policies for church and other community organizations
Access to programs (FV, PA)	Local program access (The first two items listed seem to be school /Institutional rather than Community)	• Collaborate with school staff to implement a Breakfast in the Classroom program, like a 2nd chance breakfast • Promote extended school breakfast hours to make it available to all students • Promote after school use of recreational and physical activity facilities as part of a nutrition education program • Provide and/or increase FV a la Carte offerings and FV snacks • Replace less healthy offerings in vending machines with fruits and vegetables
Community		
Access to resources (FV, PA)	Many organizations and institutions are able to influence factors at higher levels by combining or sharing human, physical and/or financial resources	• Participate in coalitions or regional collaborative • Create partnerships or collaborative (organizational and community-wide) that promote fruit and vegetable consumption, physical activity and the use of Nutrition Assistance Programs • Link individuals to community organizations • Connect organizations to one another and develop a list of resources that may be shared • Increase frequency of interaction among individuals in a social network
Social Norms (FV, PA)	Expectations that a social group	• Utilize small and mass media to promote the *Network* objectives

Factors that influence behavior (and behaviors for which it is suited)	**Description**	**Activities to change factor (*these are examples of many activities that may be conducted to change the factor*)**
	holds for an individual's behavior.	• Mobilize a network of individuals that can support change in a health behavior • Portray role models and peers performing desired behavior through mass media channels, like soap operas, puppet shows, comic books or videos • Use mass media channels to communicate success stories, like the ban on soda consumption in schools • Establish mentoring programs, buddy systems and lay health advisors to promote health behaviors
Environmental & Policy		
Access to resources (FV, PA)	Those things in the environment, which help or hinder a specific activity	• Draft policies and recommendations to promote FVC and PA • Create a policy to have school gym open after school or on weekends

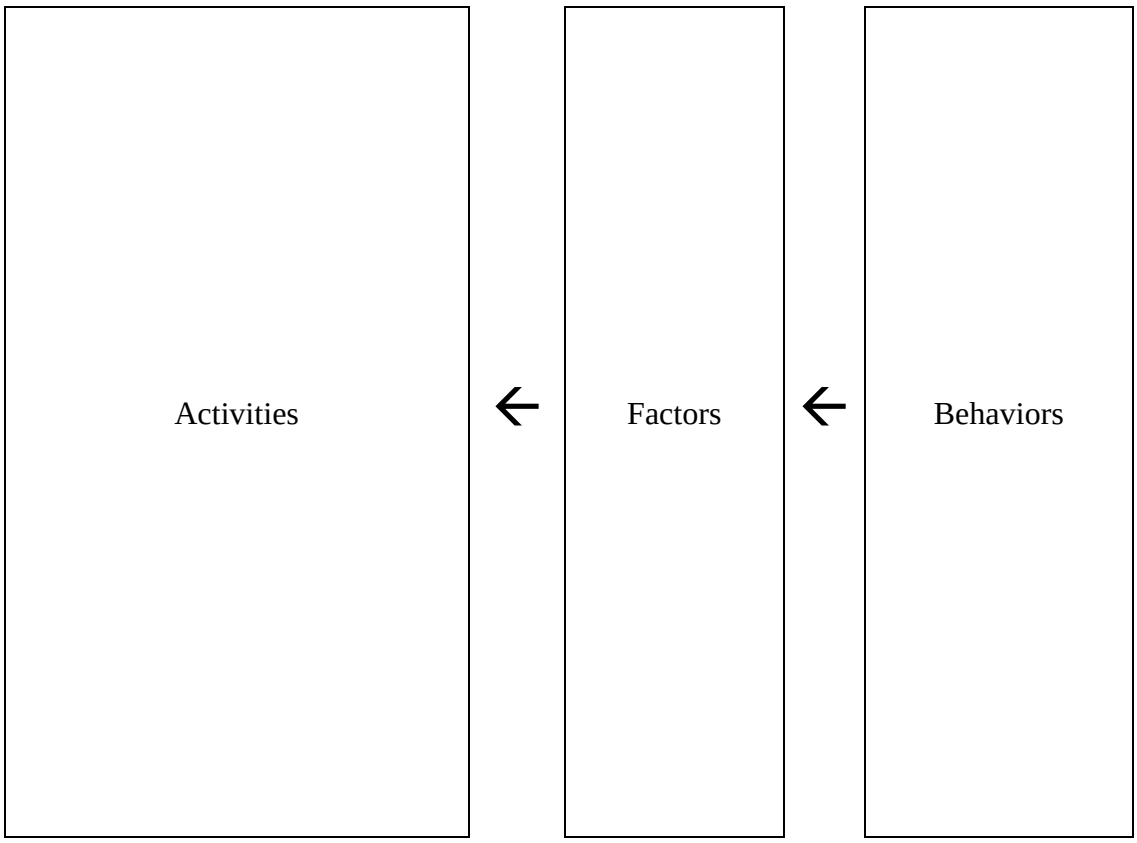
Appendix B: Sample Evaluation Model and Template

This appendix includes a sample evaluation model for a Nutrition Education Program and a template that you could use to create a model for your program. Begin your model by writing the behavior(s) targeted by your agency in the box on the right-hand side of the figure. This box will contain one of the three *Network* objectives. Then select the factor(s) targeted and write them in the middle column. Appendix A describes several factors that influence the three behaviors targeted by the *Network.* Finally, identify the activities that are included in your intervention and write those in the left hand column. Keep in mind that one activity can affect more than one factor.

Sample Evaluation Model for a Fruit and Vegetable Intervention



Evaluation Model Template



Remember: make sure the activities are tightly linked to the factors

Appendix C: Sample Cover Letter (English & Spanish)

(Printed on agency letterhead)

[Date]

Dear [student/participant/_____]:

Thank you for taking the time to fill out this survey. The [insert name of LIA] is conducting this survey to find better ways to keep people healthy. We need you to help us learn what can be done to improve the programs offered here at _____ (fill in location).

We would like you to give us your opinion about eating well. Your answers will be kept confidential. The results will be entered into a computer without your name attached. The survey usually takes about _____ minutes to complete. When you finish, please give it to your X. The survey is voluntary: however, we hope you will participate because the information we need has to come from you. By completing this survey, you agree that your participation is voluntary.

The *California Nutrition Network for Healthy, Active Families* has approved the study. If you have any questions now or later, please call: [provide contact].

- Remember to read each question carefully
- Ask questions if you don't understand something
- Don't skip questions
- This is not a test

Thank you!

(Printed on agency letterhead))

[Date]

Estimado [estudiante/participante/_____]:

Gracias por dedicar su tiempo y responder las preguntas de este cuestionario.

[Nombre del LIA] esta conduciendo este examen para informarnos de mejores alternativas de cómo mantener a la gente sana. Nosotros necesitamos de su ayuda para entender mas sobre que necesitamos hacer para mejorar los programas ofrecidos aquí en _____ (indique donde).

Nos gustaría que usted pueda darnos su opinión sobre el alimentarse bien. Sus respuestas serán guardadas confidencialmente. Los resultados serán introducidos en una computadora sin su nombre adjunto. El examen toma generalmente cerca de _____ minutos hasta la conclusión. Cuando usted termine, entréguelo a su X. El examen es voluntario: sin embargo, nosotros tenemos la esperanza que usted participará ya que toda la información que necesitamos tiene que venir de usted. Terminando este examen, usted esta de acuerdo que su participación fue voluntaria.

La Red de Nutrición de California para las familias sanas, activas ha aprobado este estudio. Si usted tiene algunas preguntas ahora o más adelante, por favor comuníquese: [indique quien]

- Recuerde leer cada pregunta cuidadosamente
- Haga preguntas si usted no entiende algo
- No salte las preguntas
- Esto no es una prueba

¡Gracias!

Appendix D: Report Template

What works?

Impact Evaluation Report Template

This template was designed for *Network* contractors participating in the Impact Evaluation project. Please type your answers into this document and email the completed form to Andy Fourney at afourney@dhs.ca.gov and your program manager by July 31st, 2007. Contact Andy via email or phone (916-449-5386) if you need additional information.

Due Date:
July 31st, 2007

Report prepared by: _____

Name: _____

Agency: _____

Telephone: _____

Email: _____

Date: _____

Evaluation Design

1. **Please type your impact objective.**

2. **What were the factors you measured?**

3. **What intervention and strategies were implemented to change the factors?**
   Please describe the specific activities or strategies that were used to effect the change, i.e., taste tests, newsletters for educators and parents, integrated nutrition education, posters, menu slicks, etc. If the intervention targets factors at the individual and interpersonal levels of the Social Ecological Model please describe the content of the five sessions.

4. **What survey tool did you use?**
   If you measured preferences please specify which fruits and vegetables you featured in your intervention.

5. **If you could have added a question to the survey what would you have asked? (Feel free to add the response categories.)**

6. **Describe challenges faced during the intervention implementation.**

7. **What type of design was used, e.g., pretest and posttest, pre-posttest with a control, posttest only or other?**

Evaluation Survey Implementation

8. **Who were the survey respondents? (please give age range)**

9. **Where were they administered (name and type of locations, e.g., health department, community center, mobile home park, etc.)**

10. **When were the pretest and posttest surveys administered? (Please give dates.)**

    Pretests:

    Posttests:

11. **How many were administered? (If a different number of pretests and posttest please explain.)**

    Number of Pretests:

Number of Posttests:

Number of total matched:

12. **How long did it take the respondents to answer the survey? (Please give range in minutes.)**

13. **What were the successes with the (pretest and posttest) data collection?**

Evaluation Results

Note: The Research and Evaluation Unit (REU) can provide a data entry template in the form of an Excel file to facilitate data analysis. Contact abellow@dhs.ca.gov

14. **What were the results? (See Appendix A for analysis instructions and reporting format.)**

15. **How would you interpret these results? (See Appendix B for interpretation tips).**
    Think about the change in the pretest and posttest scores? For example, did posttest scores go up or down? Did the p-value indicate the change was statistically significant? Consider the overall change in the factors or behavior.

16. **How might these results be used?**
    Describe how you plan to use the results. Think about specific ways to refine interventions for next year or about how and why they might be shared with stakeholders.

Reflection

17. **What were the big challenges you encountered during the evaluation process?**

18. **Now, reflect on the successes you've had while conducting nutrition education (or participating in it) over the past year. Describe the best**

moment you had as a nutrition educator. Think about a moment when you knew your nutrition education had made a difference in someone's life or give an example of a time when you were proud to be a nutrition educator.

19. **If Aladdin appeared with his magic lamp and offered you a wish to have more of those best moments of nutrition education or highlights what would you ask for?**

20. **Now think about the evaluation process. Share a story about one of the best moments you had while conducting this evaluation during 2006-07? Write about one of the highlights.**

Appendix A: Analysis

This section describes how to analyze the data from various surveys, specifically how to code, analyze and report the results.

Preferences:

[The instructions for preferences are for contractors that do not use a data entry template provided by the *Network*]

The preferences survey is used to measure change in preferences and change in familiarity. The *Network* strives to introduce new fruit and vegetables so the target audience will be familiar with previously unknown items. It also strives to increase preferences for those who can identify an item but may not like it a lot.

The preferences survey is comprised of a list of fruits and vegetables and respondents are asked to indicate if they know what the item is and, if so, how much they like it (Table 2). There are four response categories coded as follows:

1 = I don't know what it is
2 = I don't like it
3 = I like it a little
4 = I like it a lot

Table 1: Selected items from a preferences survey

How much do you like these fruits?

Fruits	I do not like this	I like this a little	I like this a lot	I don't know what this is
Apple	O 2	O 3	O 4	O 1
Kiwi	O 2	O 3	O 4	O 1

Change in familiarity captures movement from "I don't know what it is" to one of the other categories, i.e., "I don't like it", "I like it a little", or "I like it a lot". This can be done by coding "I don't know what it is" as "1" and all of the others as "2". The mean[5] scores on a survey that includes 10 fruits and 10 vegetables would range from 10-20 resulting in output like that in Table 2 below. The p-values[6] would be calculated with a paired t-test.[7]

(Example) Table 2: Mean change in familiarity of fruits and vegetables				
Item	Pretest mean	Posttest mean	Mean difference	P-value
Fruits	10.53	12.60	2.07	0.23
Vegetables	13.23	16.42	3.19	0.04

Change in preferences captures movement within the top categories, i.e., "I don't like it", "I like it a little", or "I like it a lot" and excludes those who do not know what it is. These are coded 2, 3, and 4 respectively. In a survey that includes 10 items the mean scores could range from 20-40 resulting in output like that in Table 3 below. The p-values would be calculated with a paired t-test.

(Example) Table 3: Mean change in preferences for fruits and vegetables for respondents who report having a preference				
Item	Pretest mean	Posttest mean	Mean difference	P-value
Fruits	24.40	27.85	3.45	0.001
Vegetables	19.04	21.81	2.77	.75

Norms and self-efficacy

The norms and self-efficacy scales have two – five response categories. The answers are coded one, two, three, four or five, depending on the number of response categories. The pre and posttest means should be calculated by adding the scores for each question then dividing by the number of items. Differences should be assessed with a paired t-test and reported in a format like Table 4 below.

(Example) Table 4: Mean change in norms and self-efficacy				
Factor	Pretest mean	Posttest mean	Mean difference	P-value
Norms (n=90)	2.32	2.46	0.153	0.133
Self-efficacy	5.97	7.29	1.32	0.55
Consumption	2.43	4.24	1.81	0.30

Knowledge

There is one correct answer for each knowledge question. The correct answers should be coded as "1" and the incorrect answers as "0". The means are

calculated by adding the number of correct answers and dividing by the total number of items. Statistical significance should be assessed with a paired t-test.

(Example) Table5: Mean change in (knowledge)				
Factor	Pretest mean	Posttest mean	Mean difference	P-value
Knowledge	7.43	9.63	2.20	0.04

Number of Times fruit or vegetables were consumed

The Day in the Life Questionnaire (DILQ) measures the number of times a child eats a fruit or vegetable during the course of a day. Please contact the *Network* for detailed data entry instructions and a data entry template.

Please contact Andy Fourney with questions about how to analyze other surveys:
afourney@dhs.ca.gov

Appendix B: Interpretation

How do I interpret the following table?

Change in means for preferences of fruits, vegetables and juice

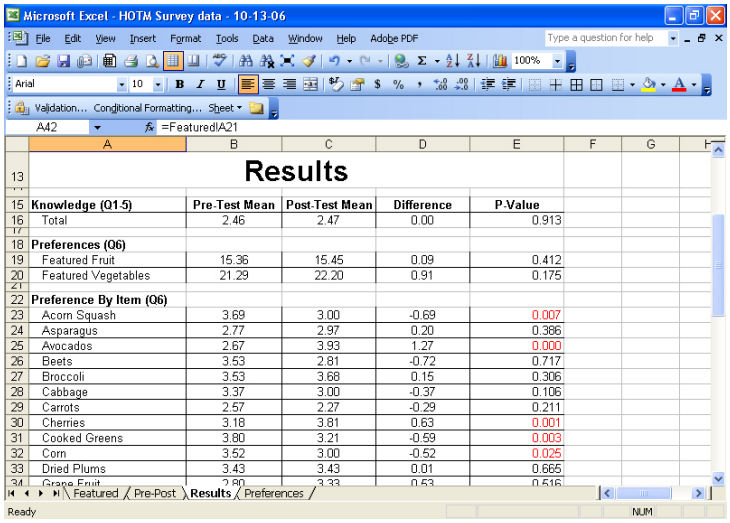
(Table 4) Mean change in preferences for vegetables				
Item (number answering question)	Pretest mean	Post test mean	mean difference	P-value
Fruits (n=90)	24.40	27.85	3.45	0.001
Vegetables (n=88)	19.04	21.81	2.77	.75
Juices (n=73)	5.4	7.6	2.2	0.221

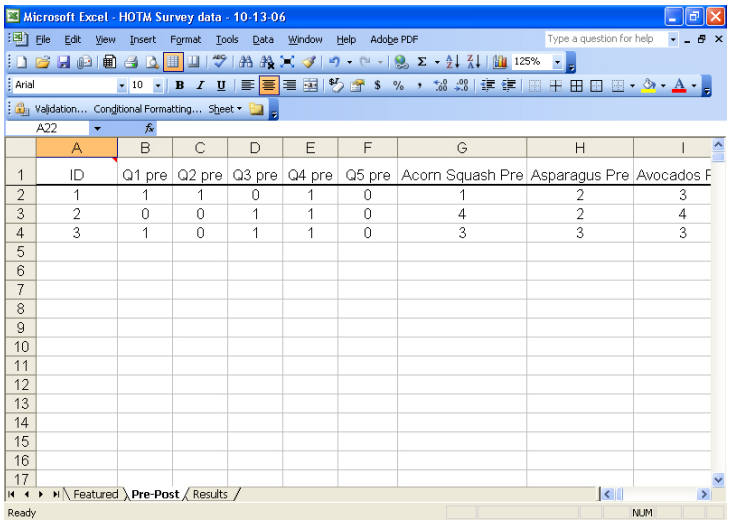
- Preference for **fruits** increased by 3.45 points after the intervention. The p-value is highly significant, indicting that there is evidence that preferences increased due to the intervention. If the mean difference is a negative number this means that the preference went down.
- Preference for **vegetables** increased by 2.77 points after the intervention. The p-value is not significant, indicating that the data do not give you any reason to conclude that the intervention had an effect.
- Preference for **juices** increased by 2.20 points after the intervention. The p-value is not significant, indicating that the change may have occurred by chance and was not attributable to the intervention.

Appendix E: Data Entry Templates

The Research and Evaluation Unit (REU) of the California Nutrition Network for Healthy Active Families (Network) is pleased to offer a data entry template. The template was created to simplify data entry and analysis for the impact evaluation project. The data entry template is an MS Excel file (example below).

After the data is entered the template automatically analyzes the data and returns the pretest mean, posttest mean, difference between the means and a p-value for a paired t-test. The p-value shows how likely it is that the difference between the pre- and posttest means was just a coincidence or occurred randomly. Program evaluators generally agree that if a p-value is less than (<) 0.05 then it is statistically significant. (Often people just say "significant" instead of statistically significant.) This implies that if the p-value is there is greater (>) than 0.05 then there was a 5% chance that the change happened by change rather than by the intervention.





For more information on the data entry templates please contact Andrew Bellow (abellow@dhs.ca.gov)